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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/758,611	01/14/2004	David A. Stewart	ARC-14743-1	7529
25186 7590 05/16/2008 NASA AMES RESEARCH CENTER ATTN: PATENT COUNSEL MAIL STOP 202A-4 MOFFETT FIELD, CA 94035-1000				
EXAMINER LANGMAN, JONATHAN C				
ART UNIT		PAPER NUMBER		
1794				
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05/16/2008		PAPER		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

### Office Action Summary

**Application No.**

10/758,611

**Applicant(s)**

STEWART ET AL.

**Examiner**

JONATHAN C. LANGMAN

**Art Unit**

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**Period for Reply** -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 February 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 3, 4, 6, 9-12 and 48 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 3, 4, 6, 9-12 and 48 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/S5108)  
Paper No(s)/Mail Date 2/8/2008.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application.
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

Claims 6 and 48 are objected to because of the following informalities:

In claim 6, the applicant claims dependency of claim 49, this should be amended to read claim 48.

In claim 48, the applicant states on page 4 line 2, "fist composition", this should be amended to "first composition".

In claim 48 paragraph 2, the applicant inserts claim modifiers "[[" and "]]", new claims should not have claim modifiers and these should be removed.

Appropriate correction is required.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 3, 4, 6, 9-12 and 48 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

In claim 48, the applicant has not shown and the Examiner can not find support for the following:

- The applicant states that the first layer comprises between 5 and 70 percent tantalum disilicide. There is support to recite the presence of tantalum disilicide when there is only one layer on the substrate. However when the structure is a composite with multiple layers, the first layer is only taught within the specification to have molybdenum disilicide, borosilicate glass, and sintering aids ([0012]).
- The applicant teaches ranges for the first layer comprising mixtures "between". There is only support to recite the ranges with the limitation "approximately" ([0026]), i.e. approximately 5 to 70%.
- The applicant teaches a range of 0-30 percent for molybdenum disilicide, however, the applicant has not show possession of the endpoint of 1%. If the applicant is to use ranges within the claims the Examiner can only find support for 0-30 percent for ranges, whereas specific compositions are given in examples, no support is shown for the claimed range of 1-30% ([0026]).
- The applicant states in claim 48, paragraphs [0004] - [0006], that there are first through sixth nonzero percentages of the compositions forming the first and second layers. There is no support anywhere in the specification that specifically mentions any nonzero percentages. That is, there is no support to recite "non zero" with respect to the amounts of the constituents making up the compositions of the layers since this phrase

includes any amount greater than 0% to 100% for which there is no support to recite from the instant specification.

- In paragraph [0005]), claim 48, the applicant states that the first second and third percentages are chosen to adjust the coefficient of thermal expansion for the first layer to match the CTE of the substrate. There is no support to recite adjusting first, second, and third constituents in order to obtain a CTE of the first layer that is substantially the same as the CTE of the substrate. The specification provides support for adjusting layer 510 (not a sub layer to be adjusted for CTE ([0035])). Or there is only support to recite that "the sub layer preferably closely matches the CTE of the substrate" ([0026]).
- There is no support to recite paragraph [0006] of claim 48, which states that the fourth, fifth, and sixth constituents are adjusted to provide a protective layer when exposed to temperatures up to at least 3000 degrees. First off there is no support to recite all temperatures of 0-3000 degrees. Furthermore, there is nowhere in the specification that teaches that the second layer is adjusted to provide a protective layer when exposed to at least 3000 degrees F. The applicant tests samples at specific temperatures including 3000 degree F, but never specifically states that the second temperatures are adjusted to provide protection at these levels, furthermore, some tests encompassed by the applicants claimed compositions, do not achieve these levels of protection, such as

examples 3-5, 7, and 8, wherein the samples tested did not provide protection up to 3000 degrees.

- In claim 6, the applicants teach "between" for compositional ranges. The specification only shows support for reciting "approximately" these amounts. Furthermore, in this context the applicant is describing the first layer, which is the sub layer. There is no support to recite that the sublayer is comprises tantalum disilicide constituent.

Claims 3, 4, and 9-12 are rejected for being dependent upon base rejected claim 48.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 3, 4, 6, 9-12, and 48 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 48 states specific amounts for the constituents of the first layer. Then later in the claim the applicant describes the composition for the same layer as three non zero amount constituents, (ranges from greater than zero -100%). The applicant therefore introduces a broader range. It is unclear what range the applicant is

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attempting to claim (greater than zero -100) or specific ranges as mentioned in the second paragraph of the claim.

Claims 3, 4, 6, and 9-12 are rejected for being dependent upon base rejected claim 48.

### ***Conclusion***

Upon further consideration of the claims and in light of the above rejections, examiner's position regarding allowable subject matter as set forth in the previous office action has been withdrawn.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JONATHAN C. LANGMAN whose telephone number is (571)272-4811. The examiner can normally be reached on Mon-Thurs 6:30 am - 4:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JCL

/Callie E. Shosho/  
Supervisory Patent Examiner, Art Unit 1794